

AF/2632
JFy



Practitioner's Docket No. JPO-101

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Quinn, Joseph P.

Serial No.: 09/754,454 Art Unit: 2632

Filed: January 4, 2001 Examiner: Nguyen, Tai T.

For: METHOD AND APPARATUS FOR DETECTION AND REMOTE
NOTIFICATION OF VEHICLE PARKING SPACE AVAILABILITY DATA

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop Appeal Brief – Patent, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

September 21, 2004
Date

By: Marilyn R. Boggs

MAIL STOP APPEAL BRIEF – PATENT

Commissioner for Patents

P.O. Box 1450

Alexandria VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF (PATENT APPLICATION 37 C.F.R. 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on July 21, 2004.

2. STATUS OF APPLICANT

This application is on behalf of a small entity.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. 1.17(c), the fee for filing the Appeal Brief is:

Other than a small entity

Appeal Brief fee due \$ 165.00

4. TOTAL FEE DUE

The total fee due is:

| | |
|------------------|-----------|
| Appeal brief fee | \$ 165.00 |
|------------------|-----------|

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| TOTAL FEE DUE | \$ 165.00 |
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5. FEE PAYMENT

Please charge Deposit Account No. 50-0369 in the amount of \$165.00 to cover Appeal brief fee and Extension fee.

6. FEE DEFICIENCY

If any additional extension and/or fee is required, this is a request therefor and to charge Account No. 50-0369.

Date: September 21, 2004



SIGNATURE OF PRACTITIONER

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In the application of: Quinn, Joseph P.

5 Appl No.: 09/754,454 Art Unit: 2632
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Date

By: Marilyn R. Bryan

MAIL STOP APPEAL BRIEF – PATENT

10 Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

ATTENTION: Board of Patent Appeals and Interferences

15

APPELLANTS' BRIEF (37 C.F.R. 1.192)
[filed in triplicate]

- This brief is in furtherance of the Notice of Appeal, filed in this case on July 21, 2004.
- 20 • The fees required under § 1.17(c), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.
- This brief is transmitted in triplicate. (37 C.F.R. 1.192(a))
- This brief contains the following items under the following headings, and in the order set forth below (37 C.F.R. 1.192(c)):

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- I. REAL PARTY IN INTEREST
- II. RELATED APPEALS AND INTERFERENCES
- III. STATUS OF CLAIMS
- IV. STATUS OF AMENDMENTS
- V. SUMMARY OF INVENTION
- VI. ISSUES
- VII. GROUPING OF CLAIMS
- VIII. ARGUMENTS

ARGUMENT: VIII A. REJECTIONS OF CLAIMS 9-17, 19 AND 20
UNDER 35 U.S.C. 103

- IX. APPENDIX: CLAIMS INVOLVED IN THE APPEAL

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I. REAL PARTIES IN INTEREST (37 C.F.R. 1.192(c)(1))

The real party in interest in this appeal is Joseph P. Quinn, as the inventor and applicant of record on the original filing date of the application.

5 **II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. 1.192(c)(2))**

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS (37 C.F.R. 1.192(c)(3))

10 **A. TOTAL NUMBER OF CLAIMS IN APPLICATION**

Claims in the application are: 9-17, 19 and 20.

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: 1-8 and 18;
2. Claims withdrawn from consideration but not canceled: NONE;
3. Claims pending: 9-17, 19 and 20;
4. Claims allowed: NONE;
5. Claims rejected: 19-17, 19 and 20.

C. CLAIMS ON APPEAL

The claims on appeal are: 9-17, 19 and 20.

20

IV. STATUS OF AMENDMENTS (37 C.F.R. 1.192(c)(4))

No amendments have been submitted after the Final Rejection mailed March 24, 2004. The claims stand as last presented in Paper No. 13 and as reproduced in the Appendix below.

V. SUMMARY OF INVENTION (37 C.F.R. 1.192(c)(5))

In the field of mobile navigation, communication and information systems, the present invention acquires parking space availability data from sensors disposed proximate to vehicle parking spaces. The data is communicated to a central processor which maintains an updated database of parking space locations and their sensed availability status. The central processor combines the parking space location and availability data with geographical map data to construct an electronic street map which graphically depicts the location of available parking spaces in a map of the local geography. The electronic street map is constructed such that it can be communicated over a network and graphically displayed on standard computer device screen.

In a particular embodiment, the electronic street map is communicated (i.e. posted) via a publicly accessible network such as the internet so that persons having a standard computer device connected to the network can view the electronic street map from their wherever they are including from their homes or in their cars, on laptop computers, desktop computers, hand held computers, or vehicle navigation systems. The invention is useful to help vehicle occupants locate a parking space in a crowded area. The invention is also useful to allow persons in their homes determine how crowded an area is, for example, before deciding whether to drive to that area. The invention can also be used, for example, by radio and television traffic reporters to provide parking availability data to the public along with traffic reports. It is envisioned that the invention can also be used by security personal to monitor how crowded an area is or for security purposes or for investigative personnel to monitor the use of particular parking spaces.

The essential elements of the present invention include the combination of public parking space availability data with a geographical map which is constantly updated map available over public networks such as the internet. By showing available parking spaces on a geographical map, (i.e. a

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map that includes local geography) the present invention provides much more than just the graphical depiction (i.e. a schematic representation) of parking space availability within in parking lot. The geographical map allows a user to navigate to the parking spaces on a public street or in a private lot. In certain embodiments the geographical map of the present invention can be combined 5 with navigation systems such as Global Positioning Systems (GPS). By making the geographical map available on public networks such as the internet, a user who may be thousands of miles away from a planned destination can research a driving route while noting the availability of parking spaces along the way. It is envisioned, for example, as the internet communications become available on airplanes, a business traveler on an airplane can access the present invention on a 10 laptop or handheld computer to formulate a parking plan as well as a driving route to a business meeting in the destination city.

VI. ISSUES (37 C.F.R. 1.192(c)(6))

The issue under appeal is whether the Examiner's rejection of claims 9-17, 19 and 20 under 35 15 U.S.C. § 103(a) as being unpatentable over Schmitt et al. (USP 5910782) in view of Racunas, Jr. (USP 6501391) is proper.

Appellant appeals the rejections as improper and requests that the claims be allowed and the case passed to issue.

20

VII. GROUPING OF CLAIMS (37 C.F.R. 1.192(c)(7))

Claim 9 and its dependent claims 10 through 16 are separately patentable.

Claim 17 and its dependent claims 19 and 20 are separately patentable.

25 VIII A. ARGUMENTS: REJECTION OF CLAIMS 9-17, 19 AND 20 UNDER 35 U.S.C. 103(a) (37 C.F.R. 1.192(c)(8)(iv))

In the Official Action, Paper 14, dated March 24, 2004, made Final, the Examiner

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rejected claims 9-17, 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Schmitt et al. (USP 5910782) (hereinafter referred to as “Schmitt”) in view of Racunas, Jr. (USP 6501391) (hereinafter referred to as “Racunas”).

5 On page 3 of Paper 14, the Examiner erroneously indicated that Schmitt discloses “the central processor (26) integrates the database with geographical map data including a geographical area of the parking space and generates a data structure (col. 4, lines 49-64)”. Contrary to the Examiner’s characterization, Schmitt teaches that the central cite computer 26 (central processor) receives a selected destination from an on board vehicle navigation computer, and if the requester 10 has a valid ID, transmits a message to the onboard computer in the form of a formatted response. (Fig. 4, col. 4, lines 37- 64.) The formatted response message includes parking availability data but is not yet integrated with a map. The message may also include additional information such as rates and acceptable forms of payment. (Col. 4, lines 2-11.) Schmitt also discloses that parking availability data can be broadcast to all vehicles having an on board navigation computer capable 15 of processing it. (Col. 3, 36 – 47.)

However, Schmitt does not disclose that the central processor integrates the database with geographical map data as claimed. Rather Schmitt discloses that a specialized “on-board vehicle navigation computer or the like vehicle navigation system” receives the message from the central 20 processor (Col. 3, lines 4-10). It is the onboard navigation computer of Schmitt not a central processor 26 that processes the information (i.e. integrates the availability data with a map) to display it to the requester (Col. 3, lines 48-51).

The Examiner also erroneously indicated that Schmitt discloses “the central processor is 25 further programmed and configured to communicate updated graphical map data structures... to a network (25, figure 1; col. 3, line 35 through col. 4, line 64). As described in the preceding paragraph, Schmitt discloses the central processor communicates the parking information

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messages, not graphical map data structures.

Furthermore, applicant submits that Schmitt does not disclose communication of graphical map data structures via a network. Rather, Schmitt discloses the information is communicated
5 between a central processor and a subscriber's onboard navigation system, or is broadcast by the central processor to all vehicles in its area. (Col. 3, lines 35-46).

The Examiner admitted that Schmitt does not disclose "the geographical map being displayed on a computer device screen as a graphical map, wherein the graphical map having sufficient detail to distinguish individual parking spaces, wherein the occupied/vacant signal is indicated at a corresponding location on the graphical map." However, the Examiner indicated that "it would be obvious to a person having ordinary skill in the art at the time the invention was made to use the computer display monitor at a central site (25) to display the geographical map in order to display the geographical map indicating a parking availability information to an operator.
15

Contrary to the Examiner's characterization, it is not claimed to use a computer display monitor at the central site in the present invention. Rather, the present invention as claimed generates an electronic street map at a central site which is capable of being displayed on a standard computer device screen. Nothing in the present invention requires or implies that the central computer (processor) includes a display. Persons skilled in the art should understand that the central computer can be a server which does not require a display.
20

The Examiner also admitted that Schmitt does not disclose "the active street map capable of being interpreted by standard computer systems for displaying geographical indicators of parking space status at space locations on an electronic street map." However, the Examiner indicated that Racunas "discloses a parking lot status information monitor being connected with a standard computer display device (16) to display the parking data to a user of the parking lot information
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(figure 1, col. 3, lines 20-27)." According to the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the standard computer system for the display device of Schmitt, as modified, for the purpose of enabling user not having on on-board navigation system to receive parking status information.

5

Although it is not disputed that Racunas discloses parking lot status information to standard computer devices to display parking lot data via the internet, nothing in Racunas cures the deficiencies of Schmitt described above. It is also not disputed that Racunas discloses transmitting parking lot information over the internet so that a real-time representation may be in the form of a 10 graphical map and may indicate occupied parking spaces. However, Racunas does not disclose any combination of parking space data with a geographical map.

The graphical map recited in Racunas, (col. 5, line 12) is a reproduction of parking lot occupancy data, and thus may be a graphical representation of a parking lot, a schematic map of a 15 plurality of parking lots etc. Apart from parking lot data, nothing in Racunas teaches or suggests the integration of geographical map data, as in claimed. This distinction is important because, contrary to the present invention as claimed, and far afield from Schmitt, the system of Racunas has no navigation function. Therefore the "graphical map" of Racunas should not be confused with the "geographical map" as described in the present specification.

20

Nothing in any of the Office Actions or Advisory Actions has provided the necessary showing in the prior art of each element recited in any of Appellant's claims. For any of these reasons alone or combined, Appellant respectfully submits that the combination of the Schmitt reference with the Racunas references fails to provide any basis for the rejection of Appellant's 25 claims.

It is axiomatic in patent law that in order to support an assertion of obviousness, each element of a claimed invention must be present in some combination of prior art, and that the

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prior art cited must itself contain some suggestion or motivation for making modification and/or combination. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1483 (Fed. Cir. 1991). The rejections of the claims asserted by the Examiner fail in each of these critical respects. Thus, the Examiner's rejections should be overturned.

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Finally, the Examiner has not indicated any proper motivation for a person of skill in the art at the time the invention was made to combine the teachings of Schmitt with Racunas. Users of Schmitt's on-board navigation system would not benefit from using the internet or standard computers to perform the navigation and locate parking spaces as described in Schmitt.

10 Accordingly, there is no suggestion in Schmitt to combine the teachings of Racunas. User's of Racunas parking lot information system do not need on board computers to receive parking lot information. Accordingly, there is no motivation found in Racunas to combine the teachings of Schmitt. Persons having ordinary skill in the art at the time the invention was made would not have the motivation described as part of the present invention to combine the essential elements
15 as claimed without the use of improper hindsight.

Because none of the cited references, alone or in combination, disclose or suggest Appellant's invention as recited in any of the claims, and because there is nothing to suggest any motivation to combine these references in the manner suggested by the Examiner, Appellant
20 respectfully submits that claims 9-17, 19 and 20 are allowable over the cited references. The Examiner's rejections should be overturned.

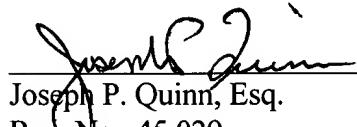
In view of these arguments, Appellant respectfully requests the rejections of all of the claims pending in the present application be overturned.

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Respectfully Submitted,

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IX. APPENDIX: CLAIMS INVOLVED IN THE APPEAL (37 C.F.R. 1.192(c)(9))

The text of the claims involved in the appeal are:

1 – 8 (Cancelled).

5

9. A parking space locating system comprising:

at least one vehicle detector disposed proximately to an associated parking space and configured to output an occupied /vacant signal along with an associated space identifier according to whether said vehicle detector detects that a vehicle is present/absent in/from said associated parking space respectively;

a central processor in communication with said at least one vehicle detector via at least one communication link;

wherein said central processor is programmed to receive at least one of said occupied/vacancy signals along with said associated space identifiers and maintain an updated database of said occupied/vacant signals along with associated space identifiers,

wherein said central processor integrates said database with geographical map data including a geographical area of said parking space(s) and generates an electronic street map which is capable of being displayed on a standard computer device screen as a graphical map, said graphical map having sufficient detail to distinguish individual parking spaces, wherein said occupied/vacant signal is indicated at a corresponding location on said graphical map;

wherein said central processor is further programmed and configured to quickly communicate updated graphical map data structures including updated occupied/vacant signal indication to a network.

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10. The system according to claim 9 wherein said network comprises a publicly

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accessible network.

11. The system according to claim 9 wherein said network includes an internet.

5 12. The system according to claim 9 wherein said at least one vehicle detector is disposed in a parking meter.

13. The system according to claim 9 wherein said at least one communication link is an electrical transmission line.

10 14. The system according to claim 9 wherein said at least one communication link is a microwave link.

15 15. The system according to claim 9 wherein said at least one communication link is a fiber optic link.

16. The system according to claim 9 wherein said at least one vehicle detector is an ultrasonic metal detector.

20 17. A method of notifying motorists of vacant parking space locations comprising the steps of:

detecting the presence or absence of a vehicle in at least one identifiable parking space; generating a signal to represent the presence or absence of the vehicle in said at least one identifiable parking space;

25 associating said signal with a respective space identifier; interpreting said signal along with said respective space identifier as space identifier data; integrating said space identifier data with digital street-map data describing an area

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including said at least one identifiable parking space to form an active street-map;

wherein said active street-map is capable of being interpreted by standard computer systems for displaying geographical indicators of parking space status at space locations on an electronic street map; and

5 communicating said active street-map to a network.

18. (Cancelled)

10 19. The method according to claim 17 further comprising the steps of:
 communicating said active street map to a mobile-accessible network;
 determining a user's location using GPS information;
 displaying an active-street map of an area including the user's position.

15 20. The method according to claim 17 further comprising the steps of:
 periodically updating said active street-map by repeating said step of interpreting
 said signal along with said respective space identifier as space identifier data; and
 repeating said step of integrating said space identifier data with digital street-map
 data describing an area including said at least one identifiable parking space to form an active
20 street-map.